AMENDMENTS TO THE CLAIMS:

The listing of claims shown below will replace all prior versions, and listings of claims in the Application:

1-12. (Withdrawn)

13-21. (Cancelled)

22. (Currently Amended) ~~The method of Claim 13, further comprising modifying at least two nanostructure sensing devices to have the same selectivity for sensing, providing shielding impermeable to at least the plurality of chemical species to at least one of the at least two nanostructure sensing devices and allowing at least one of the at least two nanostructure sensing devices to be at least partially exposed to at least the plurality of chemical species.~~

A method of fabricating an electronic system for selectively detecting and identifying a predetermined number of chemical species, comprising the steps of:

(a) providing an array of nanostructure sensing devices, each nanostructure sensing device comprising at least one nanostructure and at least two contact electrodes, wherein the at least one nanostructure provides electrical coupling between the at least two contact electrodes; and

(b) modifying selectivity for sensing of the nanostructures within at least a portion of the array of nanostructure sensing devices, such that at least one nanostructure sensing device produces a measurably changed signal when exposed to the chemical species; and

(c) modifying at least two nanostructure sensing devices to have the same selectivity for sensing,

(d) providing shielding impermeable to at least the plurality of chemical species to at least one of the at least two nanostructure sensing devices and

(e) allowing at least one of the at least two nanostructure sensing devices to be at least partially exposed to at least the plurality of chemical species.

23. (Currently Amended) A method of making a sensor array for selectively detecting and identifying a predetermined number of chemical species, comprising the steps of:

(a) providing an array of nanostructure sensing devices, each nanostructure sensing device comprising at least one nanostructure and at least two contact electrodes, wherein the at least one nanostructure provides electrical coupling between the at least two contact electrodes;

(b) providing a plurality of chemical jets wherein at least a portion of the plurality of chemical jets contains a reactant that can modify the selectivity for sensing of the nanostructures;

(c) addressing with at least the portion of the plurality of chemical jets at least the portion of the array of nanostructure sensing devices; and

(d) dispensing drops of the reactant from at least the portion of the plurality of chemical jets to at least the portion of the nanostructure sensing devices in the array of nanostructure sensing devices;.

24. (Original) The method of Claim 23, further comprising performing (a) through (d) repeatedly, using a different portion of the plurality of chemical jets and a different reactant each time, until there is a variety of selectivity for sensing within the array of nanostructure sensing devices such that each of the predetermined number of chemical species produces a measurably changed signal from the array.

25. (Original) The method of Claim 23, further comprising supplying energy to the reactant.

26. (Original) The method of Claim 25, wherein the energy is selected from

the group consisting of ultraviolet radiation, thermal energy, and electrical energy.

27. (Original) The method of Claim 23, further comprising applying a characteristic voltage across the at least two contact electrodes in each of the nanostructure sensing devices in at least the portion of nanostructure sensing devices after step (d), the characteristic voltage causing initially a current flow through the nanostructures, and continuing to apply the characteristic voltage until the current flow decreases sharply, thereby introducing point defects into the nanostructures in a self-limiting reaction.

28. (Original) The method of Claim 27, wherein the point defects have selectivity for sensing chemical species.

29. (Original) The method of Claim 27, further comprising dispensing drops of a different reactant to at least the portion of the nanostructure sensing devices in the array of nanostructure sensing devices to promote attachments of molecules to the point defects on the nanostructures.

30. (Original) The method of Claim 29, wherein the molecules have selectivity for sensing chemical species.

31. (Original) The method of Claim 29, further comprising dispensing, in series, drops of a plurality of reactants to at least the portion of the nanostructure sensing devices in the array of nanostructure sensing devices to promote attachments of a series of molecules, thus forming structures extending from the point defects on the nanostructures.

32. (Original) The method of Claim 31, wherein the structures have selectivity for sensing chemical species.

33. (Original) The method of Claim 23, wherein the reactant is an electrochemical solution and further comprising:

(e) providing a plurality of counter electrodes, such that there is at least one counter

electrode in contact with each drop of the electrochemical solution;

(f) applying a first voltage to the contact electrodes in at least the portion of the array of nanostructure sensing devices; and

(g) applying a second voltage, different from the first voltage to the plurality of counter electrodes in at least the portion of the array of nanostructure sensing devices while the first voltage is applied, thus effecting an electrochemical reaction between the electrochemical solution and the nanostructures within at least the portion of the array of nanostructure sensing devices.

34. (Original) The method of Claim 33, wherein providing a plurality of counter electrodes comprises providing a counter electrode, electrically isolated from the contact electrodes in at least the portion of nanostructure sensing devices.

35. (Original) The method of Claim 33, further comprising before step (c), providing in each nanostructure sensing device in at least the portion of the array of nanostructure sensing devices a pseudo-reference electrode.

36. (Original) The method of Claim 33, wherein providing a plurality of counter electrodes in step (e) comprises providing counter electrodes in at least a portion of the plurality of chemical jets and performing both steps (f) and (g) while the chemical jet is dispensing the drop of electrochemical solution.

37. (Original) The method of Claim 33, further comprising, in step (b), providing pseudo-reference electrodes in the chemical jets and performing both steps (f) and (g) while the chemical jet is dispensing the drop of electrochemical solution.

38. (Original) The method of Claim 33, further comprising performing steps (a) through (g) repeatedly, using a different electrochemical solution each time, until there is a variety of selectivity for sensing within the array of nanostructure sensing devices such that each of the predetermined number of chemical species produces a measurable signal from

the array.

39-46. (Withdrawn)

47. (Original) A method of fabricating an electronic system for selectively detecting and identifying a predetermined number of chemical species, comprising the steps of:

(a) providing an array of nanostructure sensing devices, each nanostructure sensing device comprising at least one nanostructure and at least two contact electrodes, wherein the at least one nanostructure provides electrical coupling between the at least two contact electrodes;

(b) submerging at least a portion of nanostructure sensing devices in the array of nanostructure sensing devices in a reactant;

(c) applying a characteristic voltage across the at least two contact electrodes in each of the nanostructure sensing devices in at least the portion of nanostructure sensing devices after step (b), the characteristic voltage causing a current flow through the nanostructures, and continuing to apply the characteristic voltage until the current flow decreases sharply, thereby introducing point defects into the nanostructures in a self-limiting reaction; and

(d) rinsing the reactant from at least the portion of the array of nanostructure sensing devices after the self-limiting reaction ends.

48. (Original) The method of Claim 47, further comprising supplying additional energy to the reactant.

49. (Original) The method of Claim 48, wherein the additional energy is selected from the group consisting of ultraviolet radiation, thermal energy, and electrical energy.

50. (Original) The method of Claim 47, wherein the point defects have selectivity for sensing chemical species.

51. (Original) The method of Claim 47, further comprising applying a different reactant to at least the portion of the nanostructure sensing devices in the array of nanostructure sensing devices to promote attachment of molecules to the point defects on the nanostructures.

52. (Original) The method of Claim 51, wherein the molecules have selectivity for sensing chemical species.

53. (Original) The method of Claim 47, further comprising applying a series of different reactants to at least the portion of the nanostructure sensing devices in the array of nanostructure sensing devices to promote reactions wherein a plurality of molecules attach and form structures extending from the point defects on the nanostructures.

54. (Original) The method of Claim 53, wherein the structures have selectivity for sensing chemical species.

55. (Original) The method of Claim 47, further comprising performing at least steps (a) – (c) repeatedly using different reactants and applying different voltages until there is a variety of selectivity for sensing within the array of nanostructure sensing devices such that each of the predetermined number of chemical species produces a measurable signal from the array.

56-65. (Withdrawn)